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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,317

12/20/2005

John Stark

P/1336-201

2795

2352 7590 05/14/2008  
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EXAMINER

ITALIANO, ROCCO

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

05/14/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,317	<b>Applicant(s)</b> STARK, JOHN	
	<b>Examiner</b> ROCCO ITALIANO	<b>Art Unit</b> 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/20/2005 and 05/22/2006</u> .                               | 6) <input type="checkbox"/> Other: _____                          |



## DETAILED ACTION

### *Election/Restrictions*

Claims 1-8 and 13-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 04/15/2008.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). In the present instance, claim 10 recites the broad recitation "0° and at most 10°", and the claim also recites "preferably at most 5°" which is the narrower statement of the range/limitation. Furthermore, claim 11 recites the broad recitation "0° and at most 10°", and the claim also recites "preferably at most 4°" which is the narrower statement of the range/limitation.

Claim 12 recites the limitation "the porous section" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

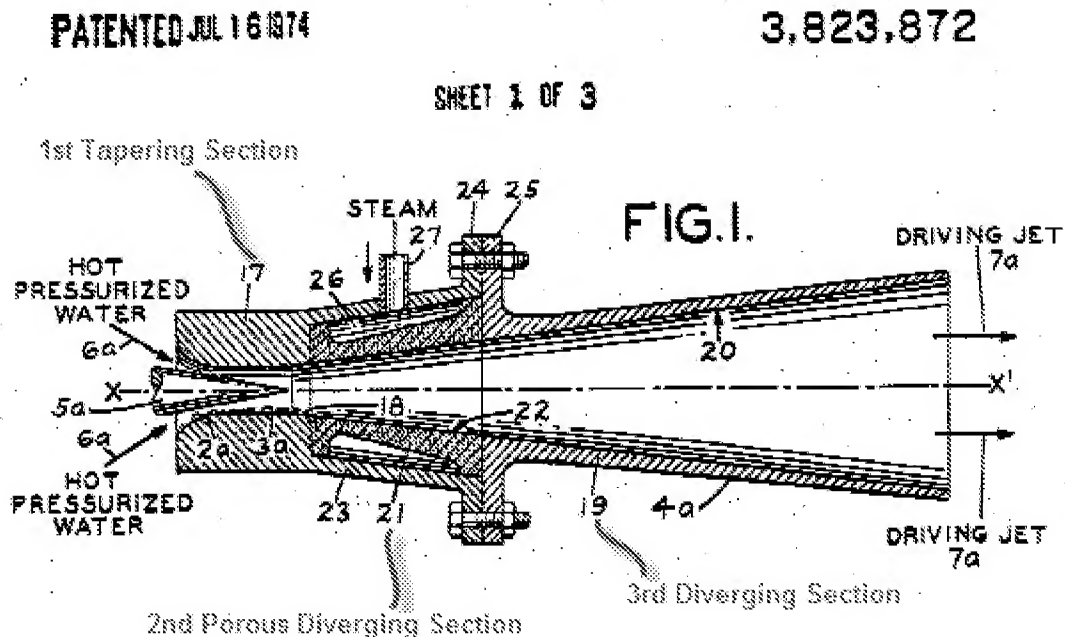
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 9 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Frenzl U.S. 3,823,872.

In regards to claim 9 Frenzl discloses a double cone device of continuous geometry for creating a pressure difference in a fluid flowing through the device. Frenzl discloses that the device comprises: a first tapering section (17) of essentially hollow frustroconical shape; a second porous diverging section (21) of essentially hollow frustroconical shape to achieve suction; a third diverging section (19) of essentially hollow frustroconical shape, extending from the end of the porous section (21) (see column 5, lines 10-23 and Fig. 1).



### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

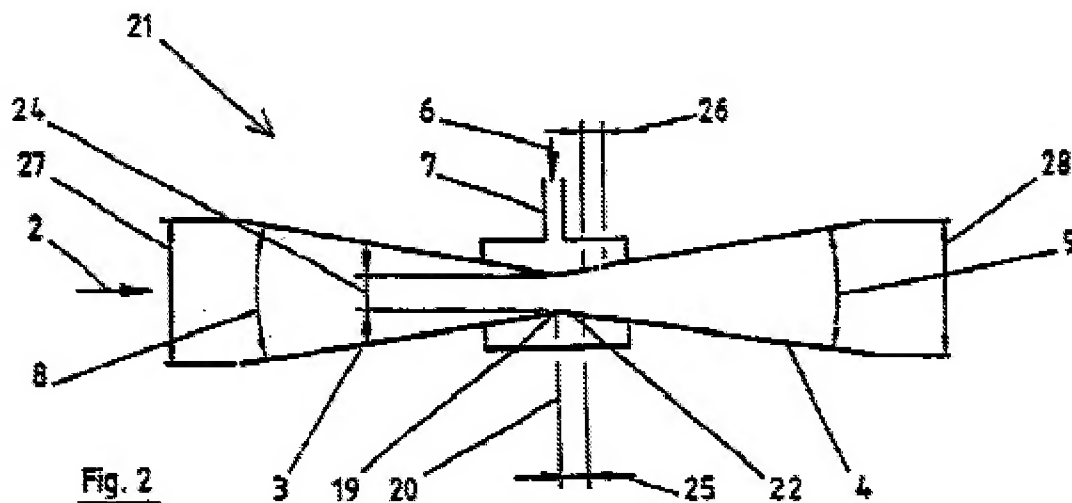
Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frenzl U.S. 3,823,872 as applied to claim 1 and further in view of Stark et al. WO01/16493 A1.

In regards to claims 10 and 11, Frenzl provides no disclosure with respect to the conical angles of the first tapering section and the third diverging section. However, Stark et al. teaches of a similar double-cone device including an analogous first tapering

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section (3) and an analogous third diverging section (4) wherein the angles of each section are provided. It is taught by Stark et al. that the angle of the first tapering section (3) is greater than  $0^\circ$  and at most  $10^\circ$ , but preferably less than  $6^\circ$ , ultimately meeting the limitations of claim 10 as claimed by the applicant. Furthermore, in particular regards to claim 11, Stark et al. discloses that the conical angle of the third diverging section (4) is less than or equal to the angle of the first tapering section wherein the conical angle of the first tapering section is as described above (see pages 2 and 5 and Fig. 2).

Therefore it would be obvious to one having ordinary skill in the art at the time of the invention to modify the teaching of Frenzl with the teachings according to Stark et al. by having the first and third section of the double-cone device with the range of conical angles, as taught by Stark et al., in order to improve the overall performance of the double cone device as well as increase the lifetime of the device.



In regards to claim 12, Frenzl discloses within the illustration of Fig. 1 that the porous section (21) has a larger diameter greater than the smaller diameter of the first tapering section (17) (see Fig. 1). However, Frenzl does not provide any disclosure in particular detailing that the porous section (21) is less than 1.5 times the smaller diameter of the first tapering section (17). However, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to optimize the diameter of the porous section (21) in order to achieve an efficient device, since it has been held that where the general conditions of a claim are disclosed in the prior art, wherein the diameter of the porous section (21) has a larger diameter than the smaller diameter of the first tapering section (17), discovering the optimum or workable ranges involve only routine skill in the art. *In re Aller*, 105 USPQ 233.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCCO ITALIANO whose telephone number is (571)270-3761. The examiner can normally be reached on Mon - Fri (Alt Fri Off) 9-5 EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon C. Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
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Rocco Italiano  
Patent Examiner  
AU 3746

R.I.  
05/06/2008